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Energy Sense: Heating System Maintenance

Cooperative Extension South Dakota State University

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heating system maintenance

Cooperative Extension Service
South Dakota State University
U.S. Department of Agriculture

ENERGY SENSE

heating system maintenance

In northern climates, a heating system can be considered the heart of a home. Your comfort depends on its efficient operation. A heating system encompasses your furnace or baseboard heating units, ductwork, radiators or registers, chimney, and thermostat(s). (A separate energy fact sheet is devoted to thermostats.)

Space heating accounts for as much as 75 percent of all energy used in homes located in the northern part of the United States; therefore well-maintained, properly sized equipment is essential.

Furnace Maintenance

Having your heating equipment serviced by a reputable heating specialist before the start of each heating season could reduce your fuel bill as much as 10 percent and could save you the discomfort and expense of equipment breakdown during the winter.

If your furnace is fired by oil or gas, have the maintenance contractor clean the furnace and flue outlets, check the belt for tension and wear, oil the motor and fan bearings (if they are not sealed), change or clean the filters, check combustion and safety devices, and make other adjustments or tests recommended in your owner's manual.

For gas furnaces, the pilot light should be checked for a clean, blue flame and the sensing unit cleaned.

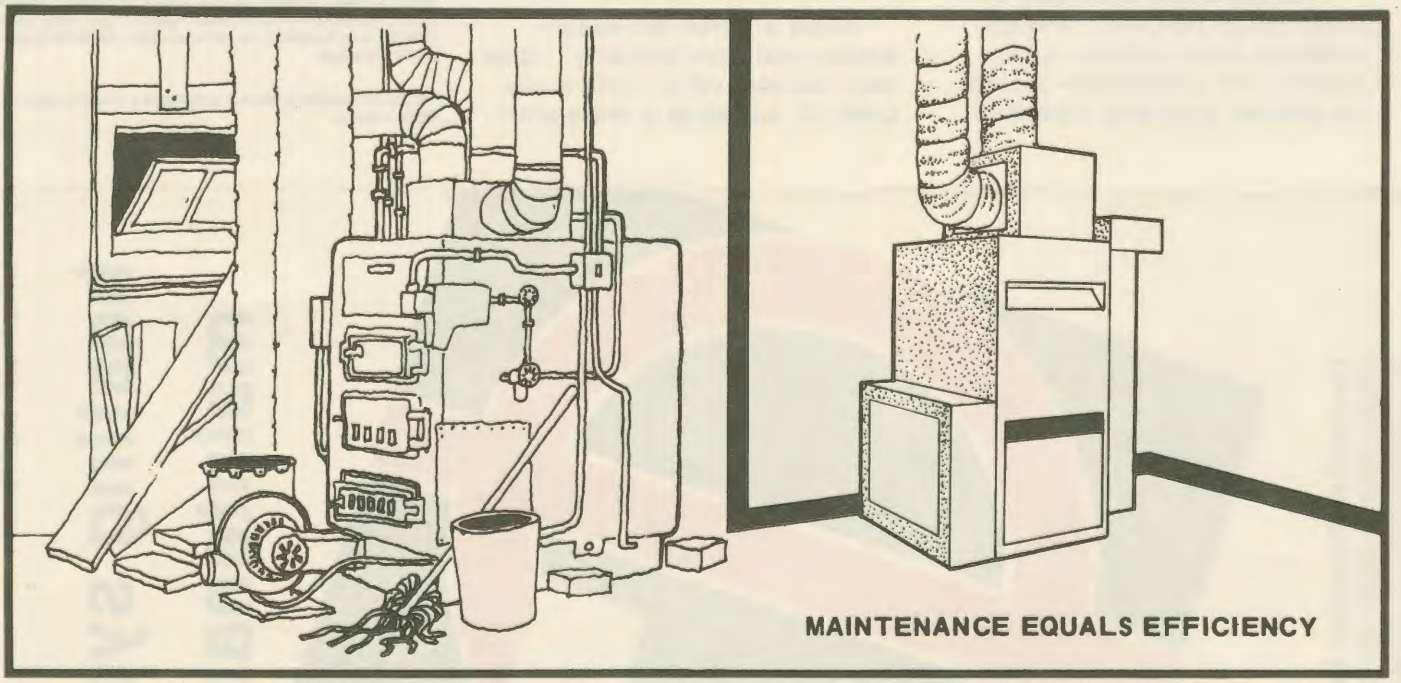
There are several things you can do to keep your furnace running efficiently. Check furnace filters every two months during the heating season; clean or replace them as needed. Clean the fan blades annually. Keep the area around the furnace housing free of dust, lint, and litter.

Learn to recognize trouble signals: odors, soot at the burner, black smoke rising from the chimney, or surging water in a boiler gauge indicate malfunction or improper adjustment. Get professional assistance.

An electric furnace requires little maintenance. Follow the manufacturer's recommendations.

If one area of your home gets more heat than it needs, or if some rooms become hot before others are even warm, your heating system probably needs to be balanced. Have this done by a heating service specialist.

If you have a hot water baseboard heating system, consider adding thermostats, valves, and piping to provide zone heating for several areas.



Furnace Size

The blower on your furnace should run almost continuously on a **very** cold day. If not, the furnace may be too large. This is frequently the case if a home was insulated after the furnace was installed. An oversize furnace or burner wastes fuel. Have your utility company or heating contractor test the system and advise you if the size of your furnace burner can be reduced.

If your furnace runs constantly on a cold day, yet your home does not warm up to the thermostat setting, the furnace is either too small or not operating properly. Get professional advice.

Good furnaces last for many years, but not forever. When the time comes to replace yours, make sure the system you choose serves your needs and the size of your home. Deal with a reputable heating firm. At the same time, see if your new equipment can be adapted to a second, back-up system.

Heating Ducts and Piping

Inspect heating ducts annually for leaks and repair them with a quality duct tape.

Heating ducts and water or steam pipes that pass through unheated areas—attics, crawl spaces, and basements—should be covered with duct insulation or unfaced R-11 insulating batts or blankets. If the ducts are used for air conditioning as well as heat, use faced insulation and place the vapor barrier on the outside to prevent condensation on the duct.

Radiators and Registers

Because they are integral parts of your heating system, registers and radiators require special care and attention.

Dust on radiators, convectors, baseboard heating units, or in ducts acts as insulation and wastes heat. Vacuum regularly.

Concentrate heat where you need it: living areas, bathroom and study areas.

Lower temperatures in the kitchen, bedrooms, and less active areas. If your home is equipped with zone heating (more than one thermostat), reduce the temperature in these areas.

Turn off heat in unused rooms.

Adjust hot air registers or the control louvers on hot-water baseboard systems to satisfy your heating needs. If your registers are not adjustable, consider replacing them.

Bleed air from hot-water-system radiators annually: open each radiator valve, hold a cup under it, and keep it there until water comes out. Don't drain the water; you only need to remove the air, which inhibits water circulation.

For the best performance, paint radiators with a special radiator paint. Metallic paints and casings built around radiators reduce heat transfer as much as 25 percent. Install a sheet of metal or aluminum foil behind radiators near cold walls so that heat will be reflected into the room.

Don't block air inlets and outlets, including radiators, with furniture, drapes, or clothing.

Chimneys and Flues

In homes heated with gas or oil, a chimney expels residue furnace gases. The flue is the passage in the chimney through which air and gases travel.

Chimneys, flues, and flashing should be inspected each fall for loose bricks and mortar, cracked linings, and leaks. Prompt repairs should be made.

One in a series of home energy conservation fact sheets. Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the USDA. Hollis D. Hall, Director of CES, SDSU, Brookings. Educational programs offered without regard to age, race, color, religion, sex, handicap, or national orgin. An Equal Opportunity Employer.

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